PBS SUBMIT COMMAND

To submit a job to PBS, the following command is used:

$ qsub myscript

where *myscript* is a file that contains the *qsub* options for the given job.

DIRECTIVE SYNTAX

These options are given in the form of

#PBS option [value]

or

#PBS option=value

where some options may require values to be included.

Typically, the first line in the script is the specific shell under which the script should be executed. For example,

#!/bin/ksh

would run the script under ksh.

JOB ENVIRONMENT DIRECTIVES

Control the environment in which the script operates.

Directive	Options	Description
-A	Account name	Charge the specified account name.
-u	User name	Run the job as the specified user.
-V	NONE	Export the environment.

REPORTING DIRECTIVES

Control standard output, error, and mail reporting.

Directive	Options	Description
-e	File	Define standard output file.
-o	File	Define standard error file.
-eo	NONE	Concatenate standard output to standard error.
-oe	NONE	Concatenate standard error to standard output.
-m	a b e r t	Send mail when a: aborted b: begins e: end r: rerun t: routed
-M	User1[,User2,…]	List of addresses.

JOB CONTROL DIRECTIVES

Specify how and where to run a job.

Directive	Options	Description
-c	n s c=minutes	Defines the interval at which the job will be checkpointed n: never s: shutdown c: at the interval of minutes
-N	Name	Name of the job.
-q	Name	Name of the queue.

LIMIT DIRECTIVES

Specify resource limits to run a job. Note that all times can be specified as

[[hours:]minutes:]seconds[.milliseconds]

As an example, the following are valid times:

Time	Explanation
12345	12,345 seconds
121.1005	121.1005 seconds
30:10	30 minutes and 10 seconds
12:00:00	12 hours, 0 minutes, and 0 seconds
10:30:10.5	10 hours, 30 minutes, and 10.5 seconds

The units of memory can be specified as
- b (bytes) or w (words)
- kb (Kilobytes) or kw (Kilowords)
- mb (Megabytes) or mw (Megawords)
- gb (Gigabytes) or gw (Gigawords)

Directive	Options	Description
-l ncpus=	Number	Number of CPUs to be used.
-l walltime=	Time	Maximum wall-clock time.
-l pcput=	Time	Maximum amount of CPU time used by a single process.
-l cput=	Time	Total time used by all the processes.
-l file=	Size	Maximum size of any single file.
-l pmem=	Size	Maximum memory used by any single process.
-l mem=	Size	Maximum memory used by all processes.

JOB DEPENDENCY DIRECTIVES

Specify the dependencies on other jobs with the following syntax:

#PBS –W depend=type:option[,type:option…]

Directive	Options	Description
synccount	Count	This job is the first of a set.
syncwith	Jobid	Run at the same time as jobid.
after	Jobid[,Jobid,…]	Schedule after these jobs have begun.
afterok	Jobid[,Jobid,…]	Schedule after these jobs end successfully.
afternotok	Jobid[,Jobid,…]	Schedule after these jobs abort.
afterany	Jobid[,Jobid,…]	Schedule after these jobs end regardless of success.
on	Count	Execute after the count dependencies.
before	Jobid[,Jobid,…]	Execute after other jobs begin.
beforeok	Jobid[,Jobid,…]	Execute after other jobs end successfully.
beforenotok	Jobid[,Jobid,…]	Execute after other jobs abort.
beforeany	Jobid[,Jobid,…]	Execute after other jobs end regardless of success.